NEWSLETTER

No.03

June 2013

Content

MobyPost ID

Title

Mobility with hydrogen for postal delivery

Programme

Fuel cell and hydrogen Joint undertaking — Call 2009

Duration

01/02/2011-01/02/2014

Main objective

MobyPost aims at developing a novel sustainable mobility concept that proposes to meet the challenge of experimenting a whole system combining a carbon neutral vehicle with a technology based on a solar hydrogen fuel cell system. This is what we call the solar-to-wheel solution.

Partner countries

Germany, Switzerland, Italy, France

Editorial

Dear Readers,

The consortium really enjoys presenting to you its 3rd **MobyPost** Newsletter. The last couple of months have seen important progress, in particular regarding the work on the infrastructure and the prototype of the vehicle.
The work related to the design of the equipment, the control and the monitoring system, as well as the infrastructure for safety and regulation issues made some important progress.
For example, two studies, a hazard and an ATEX study, were conducted on both demonstration sites. These two studies have confirmed that the design respects all security issues. Also the homologation process is about to be finalized. Read more about the latest **MobyPost** partner meeting where the new project developments were discussed on page 4.

We are also happy to announce that a first prototype of the vehicle is now available. 10 vehicles should be provided by the end of the year. Read more about the prototype and the challenges to develop it on page 2. On page 2 we are presenting an interview with a representative of **MobyPost** partner DUCATI Energia who was mainly responsible for designing the vehicle and implementing the development of the vehicle fleet.

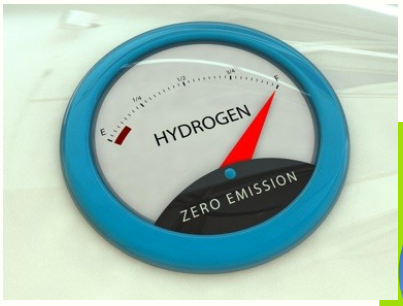
MobyPost project will present its vehicle prototype on the POST-EXPO in Vienna in October 2013. Read more about **MobyPost**'s presence on the POST-EXPO 2013 on page 4.

Finally, read some interesting news of the electro mobility field and of the low carbon automotive industry on page 5 where you will also find information about relevant future events.

Apart from the newsletter, we kindly invite you to also regularly consult our website:

www.mobypost-project.eu.

Enjoy reading!



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Interview with Mirco Fucili - DUCATI Energia

Mirco Fucili

Mirco obtained his degree in Mechanical Engineering at Faculty of Engineering in Bologna (Italy) in 2002 with specialization in Manufactuing Process.
In 2003 was employed in DUCATI Energia as Mechanical Designer in the Research and Development area becoming project leader.
In 2006 he moved to the Sales Department following the export market of Generators Business Unit.
Since 2012 he is Sales Manager of Sustainable Mobility, a new Business Unit involved in green market technologies.
Within the Mobypost project, Mirco is in charge of project management of DUCATI Energia's activities.

1) What is DUCATI Energia's main area of activities?
DUCATI Energia was founded in 1985 due to the merge of DUCATI Elettrotecnica and Zanussi Elettromeccanica and nowadays it is considered one of the most important companies in the Bologna area.
DUCATI Energia Group assets a staff list of about 700 employees working in its 6 worldwide plants. The main fields of activities are the following: capacitors, power factor correction and power electronics, wind power generators, alternators and ignition systems, electrical vehicles and charging stations, energy analysers, electric network tele-control systems, railway signalling systems, ticket issuing and transport automation systems.

2) Is DUCATI Energia actively seeking innovative developments? If yes, in which area/field in particular? Are there any particular trends?
DUCATI Energia is strongly focused in innovative developments and is currently investing, every year, at least 5% of the annual turnover in Research and Development.
In particular, DUCATI Energia is massively invests both in sustainable mobility and smart cities systems. These two fields have shown a continuous and great growth in the last years and the expectation for the near future is that they'll become a prevalent portion of the company business.

3) Do you have an internal R&D department?
DUCATI Energia has three R&D departments in the Bologna headquarter and R&D Center in Rovereto, Italy.
The R&D units in Bologna are involved in Industrial developments, in detail:

- Alternators, ignition systems and electrical mobility
- capacitors, power factor correction and power electronics
- charging stations, energy analysers, railway signalling systems, ticket issuing and transport automation systems

The R&D Centre in Rovereto instead is focused in the application of new technologies; in this centre are employed 20 engineers.

4) How did you become involved in the MobyPost project? What was your motivation to join? What are your particular interest in and expectation from participating?
DUCATI Energia was invited to become a **MobyPost** partner when the company EDI left the project during the first months. We accepted the invitation immediately because the combination of Hydrogen/Fuel Cell and electric vehicles will surely be a key product in the automotive market of the future. The **MobyPost** project allows us to design a new vehicle a size bigger comparing to our portfolio on the one hand, and to make experience on hydrogen extenders on the other hand.

5) Your role is primarily to design the prototype of the vehicle and to implement the development of the vehicle fleet. What kind of activities concretely does this include from the engineering point of view?
The activities have deeply involved both R&D departments in Bologna and R&D centre in Rovereto.
DUCATI Energia has planned to develop the vehicle applying

Follow the interview on the next page!

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the same procedures used for developing a standard vehicle; this means a closed loop between industrialization, engineers and purchasing. At every step the design is critically analysed by each group in order to take into consideration all the aspects related to manufacturing and purchasing from the very beginning onwards.
The reason for such an approach is that we strongly believe in the good result of the project and in a potential market.

6) What was (were) the biggest challenge(s) designing the prototype of the vehicle and later on implementing the development of it? Did you have to face some stumbling blocks?
The very big challenge was to design a vehicle that meets the expectations and topics of each working group. Within the **MobyPost** project specialists for Hydrogen system and ergonomics work together on the development of the vehicle, and, obviously raise different issues that all need to be considered and implemented jointly.
DUCATI Energia had the role to design a driveable and comfortable vehicle according to the needs of postmen and the constrains of the hydrogen storage technology.

7) What exactly is the novelty of this specialized vehicle? What is different to previous electrical vehicles?
The **MobyPost** vehicle will be the first vehicle powered directly from "solar to wheel".
The electric power on-board and the battery charging are not obtained by any grid connection. Instead, the vehicle will be able to run continuously just by refuelling the hydrogen tanks at sites, where hydrogen is produced by phovoltaic driven electrolyzers.

8) MobyPost is now in its final phase, which focusses on testing the vehicle fleet. What does this mean in practical terms? What exactly is supposed to be demonstrated? And what kind of results do you expect after the 12 months of monitoring the performance?
The testing phase is the most important one, in which all the partners will be involved to monitor and check if the system designed works properly.
The vehicle development is based on theoretical studies and lab tests on single devices; the field test will be the session where a fleet of vehicles is used in real environmental conditions by postmen.
The 12 month field test at the 2 locations chosen will cover all the possible weather conditions; the purpose of this is to show that the system developed, is appropriately tuned and is able to store and generate the target power.

9) What is your long-term vision concerning the MobyPost concept? Do you think it may have an impact on a wider deployment of hydrogen-driven vehicles, in Italy and/or in Europe?
The **MobyPost** vehicle will have a strategic role in the hydrogen-driven vehicle because of the innovative way to generate and manage the power on-board. The concept is supposed to be autonomous.

10) Do you think that vehicles equipped with hydrogen, similar to those developed for MobyPost will be easily accepted by the professional users, the public or possibly even by private users?
I don't see any problem. Currently all the users, professional or private, are looking for vehicles with alternative powertrains able to reach a reasonable range. Nowadays the users' feeling about hydrogen cars is, in general, a positive one, so I think that a solution as **MobyPost** will be at least not rejected, since it is a really attractive one.

Thank you very much Mirco!

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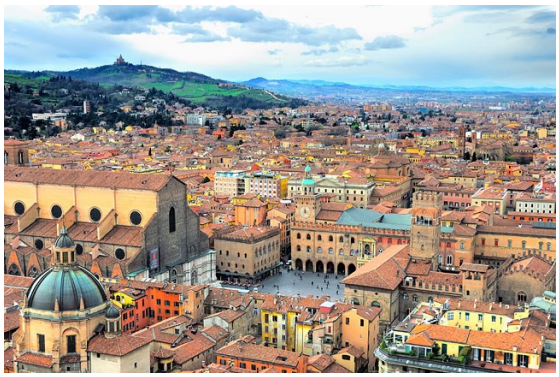
Past Events

MobyPost partner meeting in Bologna, Italy, 27th –28th March 2013

The fifth Steering Committee meeting of **MobyPost** project was organized by partner DUCATI Energia and took place end of March 2013 in Bologna, Italy, close to DUCATI Energia premises. During a two days session, representatives of all project partners could share information about the latest development and progress of the work in **MobyPost** project.

Currently, the project is in its very important phase finishing the building of the infrastructure and the development of the vehicle prototype. Good news are that the first vehicle prototype is successfully running, even though still only with batteries and not charged yet from the H2 tanks. After having visited DUCATI's premises where the vehicle is build, **MobyPost** partners had the chance of going on a drive –test with the vehicle prototype.



The meeting was a good opportunity for **MobyPost** partners to discuss the recent developments of the vehicle prototype and the infrastructure, as well as the current challenges and suitable solutions how to overcome certain technical obstacles. In order to give an appropriate platform for these important topics, two workshops were hold: one focusing exclusively on infrastructure and one on the vehicle prototype.
Furthermore, dissemination, exploitation, business plan and management issues were also addressed during the partner meeting. However, due to the importance of the technical test phase of the vehicle prototype, the M24 partner meeting has given top priority to this aspect.

MobyPost partners left Bologna updated about all recent project developments, especially regarding the test phase, and with fresh input for the up-coming project period.

Future Project Events

MobyPost's presence on the POST-EXPO 2013 in Vienna

The POST-EXPO is a leading world-class postal industry conference which provides a unique opportunity to meet new companies and to see technology and solutions that have not been presented before.
Over the past 16 years the annual POST-EXPO Conference has firmly established itself as the most highly regarded postal industry conference in the world. It offers the opportunity to address key issues facing the industry, share views, exchange ideas, benefit from the experiences of peers and seek innovation and solutions.

On this year's POST-EXPO which will take place in Vienna from the 1st- 3rd October 2013, we are proud to announce that **MobyPost** project will be present.

Partner DUCATI will have a booth in the exhibition hall and will showcase besides their own latest technologies, solutions and developments also a prototype of the **MobyPost** vehicle. Additional information about **MobyPost** project in general but also about the latest developments of the vehicle will be provided through **MobyPost** flyers and direct interactions with visitors.
Moreover, during a conference session a presentation about **MobyPost** project will be held by Michel Roman (of UTBM) which will help to explain to the audience the project, its objectives and achievements in more detail.
This is a unique opportunity for the **MobyPost** consortium to disseminate the project, in particular the prototype of the **MobyPost** vehicle and where people can experience a first hands-on. We are looking forward to this upcoming event in October.

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News from the field

Electric vehicles fit mobility habits of European car drivers

Most existing driving patterns of European car drivers are compatible with the use of electric vehicles, according to a European Commission survey carried out in six EU countries (France, Germany, Italy, Poland, Spain and the United Kingdom).
The main purpose of the study was to examine driving profiles in order to be able to estimate potential matches with charging profiles of electric vehicles. The results show that electric vehicles fit mobility habits of European car drivers, such as for example the average daily distance (40-80km, a range that can be comfortable covered by current electric vehicles) and daily parking time (enough to recharge the battery overnight).
The survey also looked into the attitudes towards electric vehicles in these six European countries: car drivers see the opportunities electric vehicles can offer (little noise, zero emissions), but a number of prerequisites, such as a lower price and an improved driving range, need to be fulfilled before they consider electric vehicles as a decent alternative. In addition, many car drivers feel they are not familiar with electric vehicle aspects, especially typical recharging time and costs, which stresses the need for demonstration activities in order to increase public awareness of electromobility.

Click here to read the full article.

The EU's new strategy to kickstart Europe's low-carbon automotive industry

The EU has pledged a huge expansion of infrastructure for electric vehicles with binding targets to multiply the number of Europe's charging stations, part of a new strategy to kickstart Europe's low-carbon automotive industry. The €10-billion plan, mostly funded by industry, is intended to break the "vicious circle" which prevents low-carbon vehicles being manufactured because of a lack of infrastructure.

In the current proposal, as well as electric cars, the EU sets out quotas for hydrogen and compressed natural gas (CNG), and liquefied natural gas (LNG) filling stations. The number of required electric charging points varies according to each country's production plans. The UK, Germany and France for example have 2020 targets for producing 1.55 million, 1 million and 2 million electric vehicles, respectively.

An open issue remains the standardization of plug for electric charging infrastructure. The standardisation of the plug infrastructure is particularly important because it provides predictability to investors, enables economies of scale, and will also increase user acceptance. Furthermore, the European Commission plans to develop common standards for hydrogen, CNG and LNG filling stations by December 2015.

Click here to read the full article.

Upcoming Events

HYBRID Expo 2013, September 17th – 19th 2013, Stuttgart, Germany

HYBRID Expo is the most innovative fair in the strongest European composites market and showcases the complete value sector of the industry.

http://www.hybrid-expo.com

2nd International Energy Transfer for Electric Vehicles Conference 2013, October 29th - 30th 2013, Nuremberg, Germany

The aim of the E|DPC and E|TEV Conference 2013 is to bring experts in electrical drive and **wireless power transfer** system technologies together and to become the European platform for national and international exchange in these technologies.

http://edpc.eu

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